

CLAIMS

What is claimed is:

1. A media network station, comprising:
a media transceiver configured for sending and receiving media signals over a media bus;
a data transceiver for sending and receiving control signals over a control bus; and
a processor in communication with said media transceiver and said data transceiver for
arbitrating transmission and reception of said media signals based on said control signals
and preventing media signal collisions from occurring on said media bus.
2. The media network station according to claim 1, further comprising a switchable
media bus termination network between said media transceiver and said media bus for balancing
transmissions on said media bus.
3. The media network station according to claim 1, further comprising a switchable
control bus termination network between said data transceiver and said control bus for balancing
transmissions over said control bus.
4. The media network station according to claim 1, further comprising a media
output connection in communication with said media transceiver for interconnecting received
media signals with an external media device.
5. The media network station according to claim 1, further comprising a media input
connection in communication with said media transceiver for interconnecting an external medial
device with said media transceiver for media signal transmission over said media bus.
6. The media network station according to claim 1, further comprising a memory
device in communication with said processor for storing computer instructions executable by
said processor, said computer instructions implementing a method of switching arbitration to
prevent said media signal collisions from occurring on said media bus.

7. A media network system, comprising:
a media bus;
a control bus; and
a plurality of media network stations connected to said media bus and said control bus, each
digital media network station comprising:
a media transceiver configured for sending and receiving media signals over a media bus;
a data transceiver for sending and receiving control signals over a control bus; and
a processor in communication with said media transceiver and said data transceiver for
arbitrating transmission and reception of said media signals based on said control
signals and preventing media signal collisions from occurring on said media bus.

8. The media network system of claim 7, wherein each of said media network
stations further comprises a memory device in communication with said processor for storing
computer instructions executable by said processor, said computer instructions implementing a
method of switching arbitration preventing said media signal collisions from occurring on said
media bus.

9. The media network system of claim 7, wherein said media bus comprises a signal
transmission technology selected from the group consisting of electrical, infra-red, ultrasonic,
radio frequency and fiber optic technologies.

10. The media network system of claim 7, wherein said media bus comprises a
plurality of media buses.

11. A method of switching arbitration in a media network system, said method
comprising:
providing a digital media network system having a plurality of media network stations in
communication with each other over a media network bus, said digital media network bus
comprising:
a digital media bus; and

a digital control bus;
one of said plurality of digital media network stations creating a control packet;
said one digital media network station sending said control packet on said control bus to all other
digital media network stations;
said all other digital media network stations parsing said control packet; and
if said control packet comprises a system-wide broadcast command and there is no transmission
on said media bus, executing said system-wide broadcast command.

12. The method according to claim 11, further comprising, if said control packet
comprises a media network station-specific command, and there is no transmission on said media
bus, executing a handshake and said media network station-specific command or else timing out.

13. The method according to claim 12, wherein said executing a handshake further
comprises validating a response to ensure correct processing of said media network station-
specific command.

14. A method of switching arbitration in a media network system, said method
comprising:
providing said media network system including at least three media network stations
interconnected by a media bus and a control bus;
one of said at least three media network stations monitoring said control bus; and
said one of said at least three media network stations transmitting media signals to all other of
said at least three media network stations if said media bus is not being used.